

the types of the various names are indicated. This will be very useful for future reference.

At the end of the volume we find a list of unrecognized species, some of which will probably be identified and referred to their proper position at some future time.

The Fauna of British India, including Ceylon and Burma. Published under the authority of the Secretary of State for India in Council. Edited by W. T. BLANFORD.—*Rhynchota*. Vol. II. Part 1 (*Heteroptera*). By W. L. DISTANT. London, 1903. Pp. x, 242; figs. 167.

As we are informed that the next part of this work, completing the second volume, will appear very shortly, we will defer our detailed notice until then, and confine ourselves for the present to recording the publication of the present instalment, which extends from Fam. 4. Lygæidæ to the commencement of Fam. 12. Reduviidæ.

Memoirs of the Geological Survey.—Paleontologia Indica. Series IX. *The Jurassic Fauna of Cutch.* Vol. III. Part 2. *The Lamellibranchiata.* No. I. Genus *Trigonia*. By F. L. KITCHIN, M.A., Ph.D., Geol. Survey England. 122 pages, Fol. Plates I.-X. Calcutta, London, and Berlin, 1903.

THE *Trigonia* of Cutch here figured and described have been selected from among the Lamellibranchs collected by Wynne, Tedden, Stoliczka, and Blanford, and entrusted to Dr. Kitchin, of London, for examination and description. The strata from which they came are known as the following groups:—I. The Oomia group, probably combining the Cretaceous, Neocomian, partly the Portlandian; II. The Katrol, probably combining the Kimmeridgian and Oxfordian, and constituting the Upper Jurassic of Cutch; III. The Charee, probably representing the Kelloway strata, Middle Jurassic of Cutch; IV. The Patchum, probably representing the Bath Oolite group. These are enumerated in the second edition of the 'Manual of the Geology of India,' 1893, p. 217.

The classification of the known fossil *Trigonia* into sections, groups, and genera is carefully considered and clearly explained. In some cases these serial divisions and subdivisions of recognized forms are separated from their several allies by gaps variable in extent and value, but evidently reducible by better knowledge of the types. The most reliable observers and authors concerned in this classification have been:—Agassiz, 1840; d'Orbigny, 1843; Pictet, 1866; Stoliczka, 1871; Lycett, 1872-1883; Bayle, 1878; Choffat, 1885; and Bigot, 1892. Their methods and results are succinctly stated at pages 7-9.

The differences due to the progress of growth in individuals (as in growth-stages) are taken into consideration on the lines more or

less definitely indicated by Hyatt, 1888; Jackson, 1890; and by Buckman and Bather, 1895, for other kinds of Mollusca.

A strict comparison of the species from Cutch with those at present known from other parts of the world is made throughout. The *Distribution* of the fossil *Trigonia* in Cutch is thus given at pages 12 and 120:—

a. (i) <i>Costatæ</i> (Section).		}	... 12 ...	{ Patchum Group. Charee Group. Oomia Group.
1.	<i>Trigonia tumida</i> , nov.			
2.	<i>T. prora</i> , n.			
3.	<i>T. chariensis</i> , n.			
4.	<i>T. propinqua</i> , n.			
5.	<i>T. brevicostata</i> , n.			
6.	<i>T. distincta</i> , n.			
7.	<i>T. acuta</i> , n.			
8.	<i>T. dhosaënsis</i> , n.			
9.	<i>T. nitida</i> , n.			
10.	<i>T. sp.</i>			
11.	<i>T. tenuis</i> , n.			
12.	<i>T. parva</i> , n.			
(ii) Derivatives of <i>Costatæ</i> (Section).		}	... 5 ...	Oomia Group.
13.	<i>Trigonia Smeei</i> , <i>J. de C. Sowerby</i> .			
14.	<i>T. crassa</i> , n.			
15.	<i>T. cardiniiformis</i> , n.			
16.	<i>T. trapeziformis</i> , n.			
17.	<i>T. retrorsa</i> , n.			
b. <i>Gibbosæ</i> (Group).		}	... 1 ...	Oomia Group.
18.	<i>Trigonia spinicostata</i> , n.			
c. Group of <i>Trigonia v-scripta</i> (Group).		}	... 3 ...	Oomia Group.
19.	<i>Trigonia dubia</i> , n.			
20.	<i>T. v-scripta</i> , n.			
21.	<i>T. recurva</i> , n.			
d. <i>Undulatæ</i> (Section).		}	... 1 ...	Oomia Group.
22.	<i>Trigonia remota</i> , n.			
e. <i>Scaphoideæ</i> (Section). (<i>Sensu latiore.</i>)		}	... 5 ...	{ Patchum Group. Charee Group.
23.	<i>Trigonia kutchensis</i> , n.			
24.	<i>T. exortiva</i> , n.			
25.	<i>T. hispida</i> , n.			
26.	<i>T. jumarensis</i> , n.			
27.	<i>T. gracilis</i> , n.			
f. <i>Pseudo-quadratæ</i> (Group).		}	... 1 ...	Oomia group.
28.	<i>Trigonia mamillata</i> , n.			
g. <i>Scabræ</i> (Section).		}	... 2 ...	Oomia Group.
29.	<i>Trigonia ventricosa</i> , <i>F. Krauss</i> , sp.			
30.	<i>T. pulchra</i> , n.			

I. Nos. 1, 2, 25, 26 occur in the Upper Patchum beds.

II. Nos. 1, 3, 4, 5, 6, 7, 8, 9, 10, 23, 24, 27 occur in the Charee group.

III. None in the Katrol group.

IV. Nos. 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 28, 29, 30 occur in the Oomia group.

Of these thirty species only two were determined as occurring in Cutch previously, namely *Trigonia Smeei* and *T. ventricosa*. The former has long been known as an Indian species, and the latter also in India as well as in the Uitenhage strata of South-east Africa, and lately it has been found in German East Africa.

In the Appendix at page 121 Dr. Kitchin refers to the Mesozoic Mollusca collected during W. Bornhardt's Journey in German East Africa (1895-97), and described by Dr. G. Müller in 1900, who regards two of the species as Jurassic; but two of the others he considers to be of Lower Neocomian age, namely *T. ventricosa*, Krauss, and its associate *T. Beyschleyi*, Müller. *T. Kuehni*, Müller, is said to be of Upper Neocomian age. It is evidently certain that there is a resemblance (Dr. Kitchin says) of the German East-African fossils to those of the Oomia group and those of Uitenhage, as far as the lamellibranchs bear evidence at present (pages 2, 115, 121, &c.).

The numerous figures of *Trigoniae* in the ten lithographic plates are excellently well drawn, of natural size, by Miss G. M. Woodward, of London.

Circulars on Agricultural Economic Entomology.

Issued by the Trustees, Indian Museum.

WE have received the following numbers of these useful publications, which are accompanied with good recognizable uncoloured illustrations, and are issued at the price of 3 or 4 annas per dozen, for general circulation in India.

- No. 1. The Rice Sapper (*Leptocorisa acuta*).
2. The Bengal Rice Hispa (*Hispa anescens*).
3. The Sugar-cane Borer (*Chilo simplex*).
4. The Rhinoceros or Date-Palm Beetle (*Oryctes rhinoceros*).
5. The North-west or Migratory Locust (*Acridium peregrinum*).
6. The Cut-Worm (*Agrotis ypsilon*).

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

January 20th, 1904.—Sir Archibald Geikie, D.C.L., D.Sc., Sec.R.S.,
Vice-President, in the Chair.

The following communication was read:—

'On the Jaws of *Ptychodus* from the Chalk.' By Arthur Smith Woodward, LL.D., F.R.S., F.L.S., F.G.S.

Hitherto no traces of the cartilaginous jaws of this fish have been found in association with the dentition; but Mr. Henry Willett has